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FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
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Declarations under Rule 4.17:

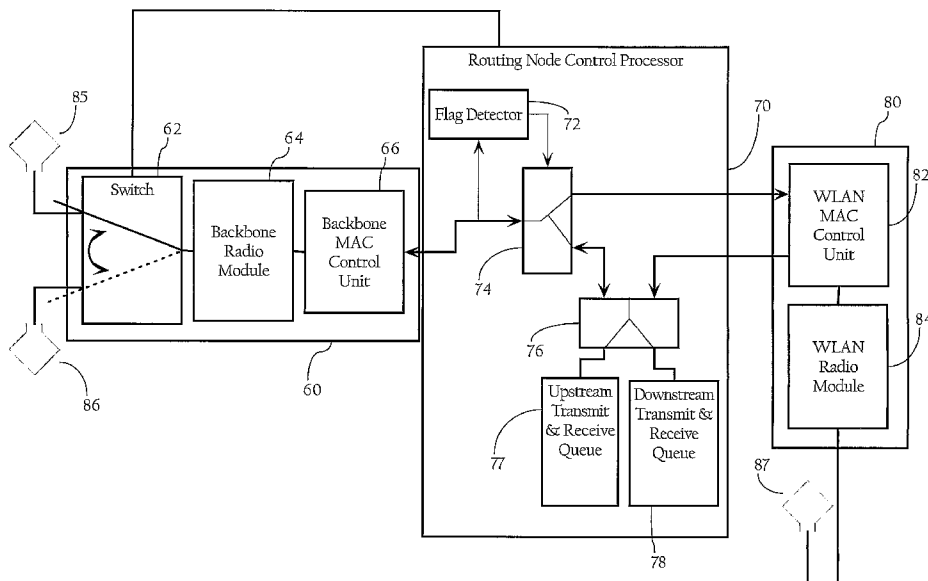
- as to applicant's entitlement to apply for and be granted a
patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the
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(54) **Title:** SYNCHRONIZATION OF UPSTREAM AND DOWNSTREAM DATA TRANSFER IN WIRELESS MESH TOPOLOGIES



(57) **Abstract:** Methods, apparatuses and systems directed to synchronizing upstream and downstream transmissions across routing nodes (70) in a wireless mesh network. The present invention, in one implementation, reduces radio interference between routing nodes (70) in a wireless mesh network. In one implementation, the present invention, also allows for the use of a single radio dedicated to wireless backbone transmissions thereby reducing the cost of routing nodes. In one implementation, at least some of the routing nodes (70) in the wireless mesh network include a second radio and associated wireless communication functionality to provide wireless access to mobile stations.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/14248

A. CLASSIFICATION OF SUBJECT MATTER

IPC: **H04J 3/08**(2006.01);**H04J 3/06**(2006.01)
H04J 3/16(2006.01)

USPC: 370/503,507

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 370/503,507,315,324,347,348

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2002/163933 A1 (BENVENISTE) 07 November 2002 (07.11.2002), Figure 2F, pg 3, paragraph [0042], pg 14, paragraph [0164].	1-27 ----- 28-46
Y	WO 99/16214 (MYLES et al) 1 April 1999 (1.04.1999), Figure 1, Figure 6, pg 10, lines 18-21.	28-46
A	US 2003/0174690 A1 (BENVENISTE) 18 September 2003 (18.09.2003), abstract, Figure 3.	1-46
A, E	US 7,180,875 B1 (NEUMILLER et al) 20 February 2007 (20.02.2007), abstract, Figure 8, Figure 9.	1-46

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

"A"	document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

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PCT/US05/14248

Continuation of B. FIELDS SEARCHED Item 3:

EAST

search terms: node, station, terminal, CTS, clear, request, RTS, timer, counte, alternate, frame, block